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10/765,554	01/27/2004	David L. McClintock	016295.1517	1645

7590  
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EXAMINER

CRAWFORD, JACINTA M

ART UNIT

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2628

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/765,554

**Applicant(s)**

MCCLINTOCK ET AL.

**Examiner**

JACINTA CRAWFORD

**Art Unit**

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claims 1 and 8 are objected to because of the following informalities:

Claim 1, line 6, recites the limitation, “independently **controla** first...”

but should be “independently **control a** first...”

Claim 1, line 7, recites the limitation, “through the display device connector” but should be changed to “through the **single** display device connector”

Claim 8, line 8, recites the limitation, “through the display device connector” but should be changed to “through the **single** display device connector”

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lafleur (US 7,123,248) in view of Applicant's Admitted Prior Art (AAPA, Background) and Trottier et al. (US 6,903,706).

As to claim 1, Lafleur discloses a video display controller (Figure 3, element 2), comprising:

a graphics processing unit (Figure 3, element 4, video processor) adapted to receive input and transmit output to one or more display devices (column 3, lines 50-60); and

a single display device connector (Figure 3, element 6, DVI-I connector) in communication with the graphics processing unit (Figure 3, elements 12a and 14a notes communication);

wherein the video display controller is adapted to control a first display device (Figure 3, element 16a) and a second display device (Figure 3, element 16b) through the single display device connector (Figure 3, element 6, DVI-I).

Lafleur discloses an enabler which can be considered a “dongle” since the enabler function as a “routing circuitry” which defines the appropriate channel plan for display 16a and 16b (Figure 3, enabler 8; column 4, lines 30-58).

However, Lafleur differs from the invention defined in claim 1 in that Lafleur do not disclose wherein the video display controller is further configured to be coupled to a dongle through the display device connector.

Lafleur does disclose the configurations of the system can be changed.

Applicant's Admitted Prior Art discloses wherein the video display controller is further configured to be coupled to a dongle through the display device connector (Background, page 3, paragraph 1).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Lafleur's system with Applicant's Admitted Prior Art's dongle to ensure precision in routing the channel plans to the appropriate display device in a multiple display system.

Lafleur modified with AAPA differs from the invention defined in claim 1 in that Lafleur modified with AAPA do not disclose the video controller independently controlling a first display and a second display, without using an additional video display controller.

Trottier et al. disclose a video controller independently controlling a first display and a second display, without using an additional video display

controller (abstract, Figure 4, column 4, lines 60 thru column 5, lines 29 notes that the two display controllers can be implemented as a single display controller and still provide two separate images to the output displays).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Lafleur modified with AAPA's video display controller with Trottier et al.'s method of controlling displays independently to provide more features and options for displays to be used for various multi-purpose tasks.

As to claim 2, Lafleur modified with AAPA and Trottier disclose the video display controller (Lafleur, Figure 3, element 2) where the single display device connector is a DVI-I connector (Lafleur, Figure 3, element 6; column 3, lines 46-47; AAPA, Figure 1; Background, pages 2 and 3).

As to claim 3, Lafleur modified with AAPA and Trottier disclose the video display controller where the first display device (Lafleur, Figure 3, element 16a) is an analog display device (Lafleur, Figure 3, element 14a; AAPA, Background, page 3, lines 1-3).

As to claim 4, Lafleur modified with AAPA and Trottier disclose the video display controller where the second display device (Lafleur, Figure 3, element

16b) is a digital display device (Lafleur, element 12a; AAPA, Background, page 3, lines 1-3).

As to claim 5, Lafleur modified with AAPA and Trottier disclose the video display controller comprising a first control channel and a second control channel (Lafleur, Figure 4).

As to claim 6, Lafleur modified with AAPA and Trottier disclose the video display controller where the first control channel is adapted to use analog.

Lafleur discloses remapping the TMDS signals and replacing them with analog signals for dual display outputs (see Figure 4 and column 4, lines 16-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this same method using Display Data Channel Command Interface.

As to claim 7, Lafleur modified with AAPA and Trottier disclose the video display controller where the second control channel is adapted to use analog.

Lafleur discloses remapping the TMDS signals and replacing them with analog signals for dual display outputs (see Figure 4 and column 4, lines 16-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the channel to use Display Data Channel Command Interface.

As to claim 8, Lafleur discloses a dongle (Figure 3, element 18; column 3, lines 48-49), for connecting a video display controller (Figure 3, element 2) with a first display device (Figure 3, element 16a) and a second display device (Figure 3, element 16b), the video display controller comprising a graphics processing unit (Figure 3, element 4, video processor) adapted to receive input and transmit output to one or more display devices (column 3, lines 50-60), the video display controller further comprising a single display device connector (Figure 3, element 6, DVI-I connector) in communication with the graphics processing unit (Figure 3, elements 12a and 14a notes communication), and wherein the video display controller is adapted to control the first display device (Figure 3, element 16a) and the second display device (Figure 3, element 16b) through the display device connector (Figure 3, element 6, DVI-I connector), the dongle comprising:

routing circuitry capable of:

routing a first video channel and a first control channel from the video display controller to the first display device (Figure 3, elements 4 to 6 to 16a), and routing a second video channel and a second control channel from the video



display controller to the second display device (Figure 3, elements 4 to 6 to 16b)(NOTE: arrows routing the channels to the appropriate display device).

Lafleur discloses an enabler which can be considered a “dongle” since the enabler function as a “routing circuitry” which defines the appropriate channel plan for display 16a and 16b (Figure 3, enabler 8; column 4, lines 30-58).

However, Lafleur differs from the invention defined in claim 1 in that Lafleur do not disclose wherein the video display controller is further configured to be coupled to a dongle through the display device connector.

Applicant's Admitted Prior Art also discloses a dongle, for connecting a video display controller with a first display device and a second display device and wherein the video display controller is further configured to be coupled to a dongle through the display device connector (Background, page 3, paragraph 1).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Lafleur's system with Applicant's Admitted Prior Art's dongle to ensure precision in routing the channel plans to the appropriate display device in a multiple display system.

Lafleur modified with AAPA differs from the invention defined in claim 1 in that Lafleur modified with AAPA do not disclose the video controller independently controlling a first display and a second display, without using an additional video display controller.

Trottier et al. disclose a video controller independently controlling a first display and a second display (abstract, Figure 4, column 4, lines 60 thru column 5, lines 29 notes that the two display controllers can be implemented as a single display controller and still provide two separate images to the output displays).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Lafleur modified with AAPA's video display controller with Trottier et al.'s method of controlling displays independently to provide more features and options for displays to be used for various multi-purpose tasks.

As to claim 9, Lafleur modified with AAPA and Trottier disclose the dongle where the first video channel is a TMDS channel (Lafleur, Figure 4) and the second video channel is an analog VGA channel (Lafleur, Figure 4).

As to claim 10, Lafleur modified with AAPA and Trottier disclose the dongle where the first video channel is a TMDS channel (Lafleur, Figure 4) and the second video channel is a TMDS channel (Lafleur, Figure 4).

As to claim 11, Lafleur modified with AAPA and Trottier disclose the dongle where the first control channel and the second control channel are adapted to use analog (Lafleur, Figure 4 and column 4, lines 16-28; AAPA, Background).

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this same method using Display Data Channel Command Interface.

As to claim 12, Lafleur modified with AAPA and Trottier do not disclose the dongle comprising a dongle detection circuit, wherein the dongle detection circuit signals the video display controller that the dongle is attached to the video display controller.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a detection circuit to detect when the dongle is attached to the video display controller in order to control and properly implement the control channels to the appropriate display.

As to claim 13, Lafleur discloses an information handling system, comprising:

- a first display device (Figure 3, element 16a);
- a second display device (Figure 3, element 16b);
- a video display controller (Figure 3, element 2) in communication with the first display device and the second display device (Figure 3: note the communication is denoted by the arrows), the video display controller comprising:
  - a graphics processing unit (Figure 3, element 4, video processor) adapted to receive input and transmit output to one or more display devices (column 3, lines 50-60); and
  - a single display device connector (Figure 3, element 6, DVI-I connector) in communication with the graphics processing unit (Figure 3, elements, 12a and 14a);

wherein the video display controller is adapted to control the first display device (Figure 3, element 16a) and the second display device (Figure 3, element 16b) through the single display device connector (Figure 3, element 6, DVI-I connector); and a dongle comprising circuitry capable of: routing a first video channel and a first control channel from the video display controller to the first display device, and routing a second video channel and a second control channel from the video display controller to the second display device (Figure 3, enabler 8; column 4, lines 30-58).

Lafleur discloses an enabler which can be considered a “dongle” since the enabler function as a “routing circuitry” which defines the appropriate channel plan for display 16a and 16b (Figure 3, enabler 8; column 4, lines 30-58).

However, Lafleur differs from the invention defined in claim 1 in that Lafleur do not disclose wherein the video display controller is further configured to be coupled to a dongle through the display device connector.

Applicant's Admitted Prior Art discloses wherein the video display controller is further configured to be coupled to a dongle through the display device connector (Background, page 3, paragraph 1).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Lafleur's system with Applicant's Admitted Prior Art's dongle to ensure precision in routing the channel plans to the appropriate display device in a multiple display system.

Lafleur modified with AAPA differs from the invention defined in claim 1 in that Lafleur modified with AAPA do not disclose the video controller independently controlling a first display and a second display, without using an additional video display controller.

Trottier et al. disclose a video controller independently controlling a first display and a second display (abstract, Figure 4, column 4, lines 60 thru column 5, lines 29 notes that the two display controllers can be implemented as a single display controller and still provide two separate images to the output displays).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Lafleur modified with AAPA's video display controller with Trottier et al.'s method of controlling displays independently to provide more features and options for displays to be used for various multi-purpose tasks.

As to claim 14, Lafleur modified with AAPA and Trottier disclose the information handling system comprising a housing, wherein the video display controller is within the housing (AAPA, Background, page 2, lines 5-6).

As to claim 15, Lafleur modified with AAPA and Trottier disclose the information handling system where the housing is a Small Form Factor (SFF) housing (AAPA, Background, page 2, lines 5-6).

As to claim 16, Lafleur modified with AAPA and Trottier disclose the information handling system where the housing is a laptop housing (AAPA,

Background, page 2, lines 5-6).

It is known that SFF housing could be used for laptop housing because SFF housing is relatively small and thin and used to reduce the size of the overall device.

As to claim 17, Lafleur modified with AAPA and Trottier disclose the information handling system where the first display device (Lafleur, Figure 3, element 16a) is an analog display device (Lafleur, Figure 3, 14a; AAPA, Background, page 3, lines 1-3).

As to claim 18, Lafleur modified with AAPA and Trottier disclose the information handling system where the second display device (Lafleur, Figure 3, element 16b) is a digital display device (Lafleur, Figure 3, element 12a; AAPA, Background, page 3, lines 1-3).

As to claim 19, Lafleur modified with AAPA and Trottier disclose the information handling system where the second display device is capable of receiving TMDS (Lafleur, Figure 4; AAPA, Background, page 3, paragraph 1).

***Response to Arguments***

4. Applicant's arguments filed February 27, 2009 have been fully considered but they are not persuasive. Applicants amend the independent claims to recite the limitation, "wherein the video display controller is adapted to independently control a first display device and a second display device through the display device connector, without using an additional video display controller" Applicants argue on pages 6-8 that the prior art cited, specifically Trotter et al., do not disclose this limitation. Applicants points out column 4, lines 14-20 of Trotter to teach multiple display controllers. However, the Examiner refers to Figure 4 and column 4, lines 60 thru column 5, lines 29 of Trotter which explicitly teaches that two display controllers can be implemented as a single display controller (without additional display controllers) and still provide two separate images to the output displays. Therefore, the combination of Lafleur, AAPA and Trotter et al. teaches the limitations as recited in the claims.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**



See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACINTA CRAWFORD whose telephone number is (571)270-1539. The examiner can normally be reached on M-F 8:00a.m. - 5:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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